

REMARKS

The Final Office Action dated May 28, 2004, has been received and reviewed.

Claims 1-9 and 12-34 are currently pending in the above-referenced application.

Claims 4, 9, and 23-34 have been withdrawn from consideration for being directed to a nonelected species of invention. Each of claims 1-3, 5-9, and 12-22 stands rejected.

Reconsideration of the above-referenced application is respectfully requested.

Objections to the Drawings Under 37 C.F.R. § 1.84(p)(4)

The drawings have been objected to for failing to comply with the requirements of 37 C.F.R. § 1.84(p)(4). Specifically, it has been asserted that each of Figs. 1, 1A, 6B, 6C, 8A, 8D, 9A, 10A, and 10B includes multiple reference characters that designate the same element. It has also been asserted that reference characters 18 and 118 have “been used to designate multiple different parts.” Office Action of December 18, 2003, page 2.

It is respectfully submitted that each of Figs. 1, 1A, 6B, 6C, 8A, 8D, 9A, 10A, and 10B complies with the requirements of 37 C.F.R. § 1.84(p)(4). In particular, it is respectfully submitted that each of reference characters 10, 110, 210, 210', 310, and 410 designates a chip-scale package, while reference characters 18, 118, 218, 218, 318, and 418 each designate a carrier substrate, which are merely parts of the illustrated chip-scale packages, and reference character 126 designates a substantially planar layer, which is merely a part of the carrier substrate 118 shown in Figs. 1A, 6B, and 6C.

While the lead lines that correspond to each of these reference characters include arrows and, thus, indicate a section, it is clear from the drawings that the arrows that correspond to reference characters 10, 110, 210, 210', 310, and 410 are positioned further away, representing the illustrated subject matter in its entirety, while the arrows that correspond to reference characters 18, 118, 218, 218, 318, and 418 are positioned more closely to the illustrated subject matter so as to identify only a section thereof.

Further, it is respectfully submitted that neither reference character 18 nor reference character 118 has been used to designate anything other than a carrier substrate.

For these reasons, it is respectfully submitted that multiple reference characters have not been used to designate the same elements and that none of the reference characters has been used

to designate multiple, different elements. It is, therefore, respectfully submitted that the drawings comply with the requirements of 37 C.F.R. § 1.84(p)(4).

Accordingly withdrawal of the 37 C.F.R. § 1.84(p)(4) objections to the drawings is respectfully requested.

Objections to the Drawings Under 37 C.F.R. § 1.84(p)(5)

Figs. 6B and 6C of the drawings have also been objected to under 37 C.F.R. § 1.84(p)(5) for failing to show reference character 118.

Appropriate corrections were made to these drawings by including reference character 118 and an appropriate lead line in each of Figs. 6B and 6C.

Therefore, withdrawal of the 37 C.F.R. § 1.84(p)(5) objections to Figs. 6B and 6C is respectfully requested.

Rejections Under 35 U.S.C. § 102(e)

Claims 1-3, 5-8, and 11-20 have been rejected under 35 U.S.C. § 102(e) for reciting subject matter which is purportedly anticipated by the disclosure of U.S. Patent 6,255,737 to Hashimoto (hereinafter “Hashimoto”).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The description of Hashimoto is directed to, among other, things, a process that includes applying a preformed sheet of polyimide 64 to a wafer 60 carrying a plurality of semiconductor devices. FIGs. 13A and 13B; col. 11, lines 45-48. Apertures 64a are formed through the preformed sheet 64 following application thereof to the wafer 60 to expose bond pads 62 of the semiconductor devices through the preformed polyimide layer 64. FIG. 13C; col. 11, lines 49-52. Conductive material 68 may then be introduced into the apertures 64a and into contact with the bond pads 62. FIG. 13D; col. 11, lines 49-54. As noted in the Final Office

Action, Hashimoto also indicates that apertures may be formed through a stress relieving layer by “predrilling.” Col. 11, lines 63-66.

Hashimoto also notes, at col. 4, line 66, to col. 5, line 20, that *every* bond pad (electrode 12) of a semiconductor chip 1 is rerouted by wires 3 to an external electrode 5 that is more centrally located over an active surface 1a of the semiconductor chip 1. The wires 3 and redirected external electrodes 5 are at least partially formed by sputtering a layer of aluminum or other conductive material (*e.g.*, conductive material 68) over the entire surface of a stress relieving layer 7 (*e.g.*, preformed sheet of polyimide 64), then patterning the layer of conductive material.

Independent claim 1, as proposed to be amended herein, recites a method for fabricating a chip-scale package. The method of independent claim 1 includes positioning a preformed polymeric film over a semiconductor device. The preformed polymeric film includes at least one aperture that extends substantially longitudinally therethrough. When the preformed polymeric film is positioned over the at least one semiconductor device, the at least one aperture is in substantial alignment with a corresponding bond pad of the semiconductor device. The method of amended independent claim 1 also includes selectively introducing conductive material into the at least one aperture.

In contrast to amended independent claim 1, Hashimoto lacks any express or inherent description of *selectively* introducing conductive material into the apertures of a preformed polymeric film. Instead, the description of Hashimoto is limited to blanket deposition of conductive films over the stress relieving layers described therein in order to introduce conductive material into the apertures of such stress relieving layers and, thus, into contact with the bond pads (*e.g.*, electrodes 12) of a semiconductor device (*e.g.*, semiconductor chip 1).

Therefore, Hashimoto does not anticipate each and every element of amended independent claim 1, as would be required to maintain the 35 U.S.C. § 102(e) rejection of amended independent claim 1.

Each of claims 2, 3, 5-8, and 12-20 is allowable, among other reasons, for depending either directly or indirectly from claim 1, which is allowable.

Claim 19 is further allowable since Hashimoto does not expressly or inherently describe placing a preformed polymeric film on at least a portion of a peripheral edge of a semiconductor

device. While Hashimoto does note that a polyimide plate 64 may be “adhered to a wafer 60” (col. 11, lines 45-47), Hashimoto does not mention that the polyimide plate 64 may extend onto peripheral edges of the wafer or any of the semiconductor devices carried thereby.

Claim 20 is additionally allowable since Hashimoto lacks any express or inherent description of placing polymeric material at least laterally adjacent a conductive structure. Instead, the description of Hashimoto is limited to forming “outermost layer[s] (protective layer[s]),” which partially surround conductive structures. Col. 12, lines 50-52 and 62-64.

In view of the foregoing, it is respectfully requested that the 35 U.S.C. § 102(e) rejections of claims 1-3, 5-8, and 11-20 be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) for being drawn to subject matter which is purportedly unpatentable over the teachings of Hashimoto, in view of teachings from U.S. Patent 6,294,407 to Jacobs (hereinafter “Jacobs”).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.
In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claims 21 and 22 are both allowable, among other reasons, for depending indirectly from claim 1, which is allowable.

ELECTION OF SPECIES REQUIREMENT

It is respectfully submitted that independent claim 1 remains generic to all of the species of invention of the second group that was identified in the Election of Species Requirement in the above-referenced application. In view of the allowability of these claims, claims 4, 9, and 23-34, which have been withdrawn from consideration, should also be considered and allowed.

M.P.E.P. § 806.04(d).

ENTRY OF AMENDMENTS

It is respectfully requested that the proposed claim amendments be entered. The proposed amendments do not introduce new matter into the application, nor is it believed that they would require an additional search.

In the event that a decision is made not to enter the proposed claim amendments, entry thereof upon the filing of a Notice of Appeal in the above-referenced application is respectfully requested.

CONCLUSION

It is respectfully submitted that each of claims 1-9 and 12-34 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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